

Chapter 1



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Canaan Valley National Wildlife Refuge

The Purpose of and Need for Action

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Introduction

This Comprehensive Conservation Plan (CCP) for the Canaan Valley National Wildlife Refuge (refuge) was prepared pursuant to the National Wildlife Refuge Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act) (Public Law 105-57; 111 Stat. 1253). An Environmental Assessment (EA), as required by the National Environmental Policy Act of 1969 (NEPA), was prepared with the draft CCP.

This final CCP presents the combination of management goals, objectives, and strategies that we believe will best achieve our vision for the refuge; contribute to the mission of the National Wildlife Refuge System (Refuge System); achieve refuge purposes; fulfill legal mandates; address key issues; incorporate sound principles of fish and wildlife management, and serve the American public. This CCP will guide management decisions and actions on the refuge over the next 15 years. It will also help us communicate our priorities to West Virginia's natural resource agency, our conservation partners, local communities, and the public. As part of this process, we have met our requirements to coordinate with the State wildlife and habitat conservation plans under the NWRSA, 16 U.S.C. 668dd(e)(3).

This CCP contains 5 chapters and 11 appendixes. Chapter 1, "Purpose of and Need for Action," sets the stage for chapters 2 through 5. It

- describes the purpose of and need for a CCP
- identifies national and regional mandates and plans that influenced this plan
- highlights the purposes for which this refuge was established and presents its land acquisition history, and
- presents our vision and goals for the refuge.

Chapter 2, "Planning Process," describes the planning process we followed, including public and partner involvement in developing this final CCP.

Chapter 3, "Affected Environment," describes the existing physical, biological, and human environment in and around the refuge.

Chapter 4, "Management Direction and Implementation," presents the actions, goals, objectives, and strategies that will guide our decision-making and land management. It also outlines the staffing and funding needed to accomplish that management.

Chapter 5, "List of Preparers," lists the members of the core planning team and other Service personnel who assisted us.

Eleven appendixes provide additional documentation and information we used in compiling this plan.

The Purpose of and Need for Action

Our goal, which is directly connected with the Refuge Improvement Act, is to develop a CCP for the Canaan Valley refuge that best achieves the purposes, vision, and goals of the refuge and best contributes to the mission of the National Wildlife Refuge System (Refuge System); adheres to relevant Service policies and mandates; addresses key public issues and conservation issues; and incorporates sound principles of fish and wildlife science.

Developing a CCP is vital for the future management of every national wildlife refuge. The *purpose* of this CCP is to provide strategic management direction for the next 15 years by

- providing a clear statement of desired future conditions for habitat, wildlife, visitor services, staffing, and facilities;
- providing State agencies, refuge neighbors, visitors, and partners with a clear understanding for the reasons for management actions;
- ensuring refuge management reflects the policies and goals of the Refuge System and legal mandates;
- ensuring the compatibility of current and future public use;
- providing long-term continuity and direction for refuge management; and,
- providing direction for staffing, operations, maintenance, and annual budget requests.

There are several reasons why we need this CCP. First, the Refuge Improvement Act requires us to write a CCP for every national wildlife refuge to help fulfill the mission of the Refuge System.

Second, the refuge's 1994 Station Management Plan is 15 years old. Since that document's publication, the refuge land base has grown significantly, and its management priorities have evolved. The Indiana bat (*Myotis sodalis*), which was Federally listed as endangered in 1967, and the Cheat Mountain salamander (*Plethodon nettingi*), which was Federally listed as threatened in 1989, are both found on the refuge and are now management priorities. The West Virginia northern flying squirrel (*Glaucomys sabrinus fuscus*) was removed from the Federal list of endangered species in September 2008 but is still of management concern since it also exists on the refuge.

Third, we have developed strong partnerships vital to our continued success, and we must convey our vision for the refuge to those partners and the public.

All of these reasons clearly underscore the need for the strategic direction a CCP provides. To help us resolve management issues and public concerns, our planning process will incorporate input from natural resource agencies of West Virginia, affected communities, individuals, organizations, our partners, and the public.

Regional Context and Project Analysis Area

The refuge, located in eastern Tucker County, West Virginia, sits in the Canaan Valley, 3,200 feet above sea level in the Allegheny Mountains (see map 1-1).

On September 11, 1994, 86 acres of land were purchased to establish the Canaan Valley refuge. This was the 500th refuge created by the Service. More land was acquired over the following years and the refuge grew to approximately 3,000 acres. In 2002 the Service bought 12,000 acres from Allegheny Power Systems, bringing the refuge to its current size of about 16,193 acres.

Canaan Valley contains a wetlands complex of about 8,400 acres, making it the largest wetlands system in West Virginia. Of these total wetlands, 5,573 acres are located within the refuge.

The headwaters of the Little Blackwater River, 13 miles of the Blackwater River, and many miles of other tributaries are also within the refuge boundaries.

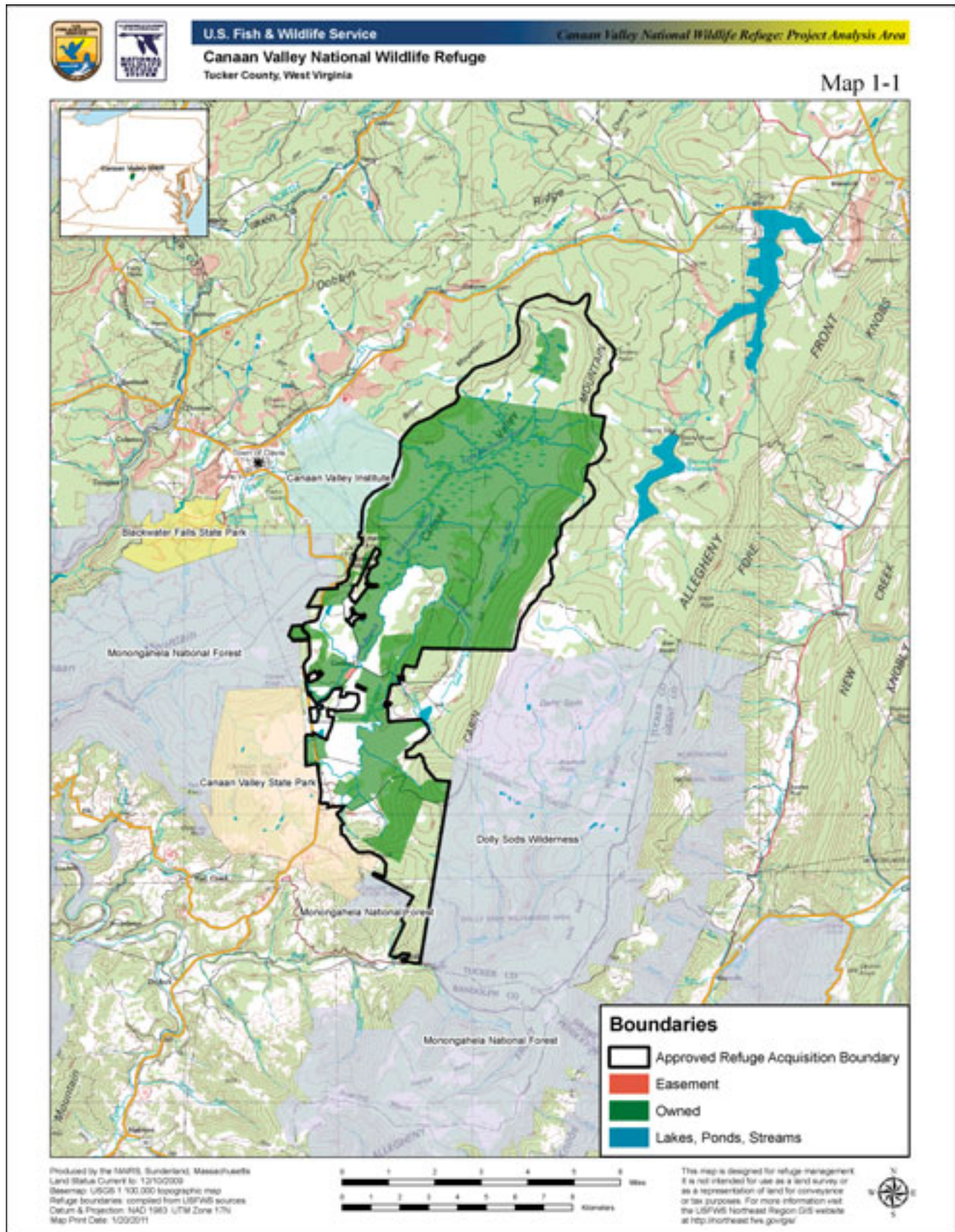
The Service and the Refuge System Policies and Mandates Guiding Planning

Although the National Wildlife Refuge System Administration Act of 1966 as amended by the Refuge Improvement Act of 1997 and each refuge's purpose provide the foundation for management, the administration of national wildlife refuges conforms to a variety of other Federal laws (including the Migratory Bird Treaty Act, Endangered Species Act (ESA), Wilderness Act, Archaeological Resources Protection Act, National Historic Preservation Act), Executive Orders, treaties, interstate compacts, and regulations pertaining to the conservation and protection of natural and cultural resources. The section below describes some of these policies and mandates that have played a critical role in our planning process. The "Digest of Federal Resource Laws of Interest to the USFWS" provides a full list (online at <http://www.fws.gov/laws/Lawsdigest.html>).



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Freeland Tract Sign



The U.S. Fish and Wildlife Service and its Mission

The Service, part of the Department of the Interior, administers the Refuge System. The Service's mission is

"Working with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people."

Congress entrusts the Service with the conservation and protection of national resources such as migratory birds and fish, Federally listed endangered or threatened species, inter-jurisdictional fish, and certain marine mammals. The Service also manages national wildlife refuges and national fish hatcheries, enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists with State fish and wildlife programs, and helps other countries develop wildlife conservation programs.

The Service manual contains the standing and continuing directives to implement its authorities, responsibilities, and activities. You can access it at <http://www.fws.gov/policy/direct.html>.

The Refuge System is the world's largest collection of lands and waters set aside specifically for conserving wildlife and protecting ecosystems. Over 550 national wildlife refuges encompassing more than 150 million acres are part of the national network today. Refuges are found in every state and several island territories. Each year, more than 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education or interpretation activities on refuges.

In 1997, Congress passed the Refuge Improvement Act. That act establishes a unifying mission for the Refuge System, a new process for determining compatible public use activities on refuges, and the requirement to prepare CCPs for all refuges. It states that first, the Refuge System must focus on wildlife conservation. It further states that the mission of the Refuge System, coupled with the purpose(s) for which a refuge was established, will provide the principal management direction for that refuge.

The mission of the Refuge System is

"To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." (Refuge Improvement Act; Public Law 105-57)

In addition, the Service released its mission policy. Among its main points are conserving a diversity of fish, wildlife, plants, and a network of their habitats; conserving unique ecosystems within the nation; providing and enhancing opportunities for compatible, wildlife-dependent recreation; and fostering public understanding and appreciation of those resources.

Fulfilling the Promise

A yearlong process involving teams of Service employees who examined the Refuge System within the framework of "Wildlife and Habitat, People and Leadership" culminated with "Fulfilling the Promise: The National Wildlife Refuge System," a vision for the Refuge System. The first-ever Refuge System Conference in Keystone, CO, in October 1998 was attended by every refuge manager in the country, other Service employees, and scores of conservation organizations. Many "Promises Teams" formed to develop strategies for

implementing the 42 recommendations of the conference report. Information from such teams as wildlife and habitat, goals and objectives, strategic growth of the Refuge System, invasive species, and inventory and monitoring helped guide the development of the goals, strategies, and actions in this final CCP.

Refuge System Planning Policy

This policy establishes requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that we will manage all refuges in accordance with an approved CCP which, when implemented, will achieve refuge purposes; help fulfill the Refuge System mission; maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System; help achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic River System; and conform to other mandates [Fish and Wildlife Service Manual (602 FW 1,2,3)].

Appropriate Refuge Uses Policy

This policy provides a national framework and procedure for refuge managers to follow in deciding whether uses are appropriate on a refuge. It also clarifies and expands on the compatibility policy (603 FW 2.10D) by describing when refuge managers should deny a proposed use without determining compatibility. When we find a use is appropriate, we must then determine if the use is compatible before we allow it on a refuge. This policy applies to all proposed and existing uses in the Refuge System only when we have jurisdiction over the use, and does not apply to refuge management activities or situations where reserved rights or legal mandates provide we must allow certain uses (603 FW 1). Appendix B further describes the Appropriate Refuge Uses Policy and describes its relationship to the CCP process.

Compatibility Policy

Federal law and Service policy provide the direction and planning framework to protect the Refuge System from incompatible or harmful human activities and ensure that visitors can enjoy its lands and waters. The Refuge Improvement Act is the key legislation regarding management of public uses and compatibility. The act declares that all existing or proposed public uses of a refuge must be compatible with refuge purpose(s). The refuge manager determines compatibility after evaluating an activity's potential impact on refuge resources, and ensuring that it supports the Refuge System mission and does not materially detract from, or interfere with, refuge purpose(s). The act also stipulates six wildlife-dependent public uses that are to receive enhanced consideration in CCPs: hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Compatibility determinations remain in effect for 10 or 15 years, depending on whether the use is a priority public use, but may be revisited sooner than the mandatory expiration date if new information reveals unacceptable adverse impacts or safety concerns. The compatibility determinations for the Canaan Valley refuge can be found in appendix B along with additional information on the process.

Biological Integrity, Diversity, and Environmental Health Policy

This policy provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources found in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and to restore lost or severely degraded environmental components. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem (601 FW 3).

Wildlife-Dependent Recreation Policy

The Refuge Improvement Act establishes that compatible wildlife-dependent recreational uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) are the priority general public uses of the Refuge System, and are to receive enhanced consideration over other public uses in refuge planning and management. The Wildlife Dependent Recreation Policy (605 FW 1) explains how we will provide visitors with opportunities for those priority public uses on units of the Refuge System and how we will facilitate them. We are incorporating this policy as Part 605, chapters 1-7, of the Service Manual. Also, the General Guidelines for Wildlife-Dependent Recreation, as written in the Service Manual, says we will strive to meet the following criteria for a quality wildlife-dependent recreation program: 1) promotes safety of participants, other visitors, and facilities; 2) promotes compliance with applicable laws and regulations and responsible behavior; 3) minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan; 4) minimizes or eliminates conflicts with other compatible wildlife-dependent recreation; 5) minimizes conflicts with neighboring landowners; 6) promotes accessibility and availability to a broad spectrum of the American people; 7) promotes resource stewardship and conservation; 8) promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources; 9) provides reliable/reasonable opportunities to experience wildlife; 10) uses facilities that are accessible to people and blend into the natural setting; and 11) uses visitor satisfaction to help define and evaluate programs.

Bird Conservation Region 28

North American Bird Conservation Initiative (NABCI) is a coalition of a great number of governmental agencies, private organizations, academic organizations, and private industry leaders in Canada, the United States, and Mexico. It was formed to address the need for coordinated bird conservation that will benefit "all birds in all habitats." NABCI aims to ensure the long-term health of North America's native bird populations by increasing the effectiveness of existing and new bird conservation initiatives, enhancing coordination among the initiatives, and fostering greater cooperation among the continent's three national governments and their peoples.

NABCI's approach to bird conservation is regionally based, biologically driven, and landscape-oriented (NABCI 2000). It draws together the major bird conservation plans already in existence for waterbirds, shorebirds, waterfowl, and landbirds, fills in knowledge gaps, and builds a coalition of groups and agencies to execute the plans.

Bird Conservation Regions (BCRs) are ecologically distinct regions in North America with similar bird communities, habitats, and resource management issues. The Canaan Valley refuge lies within BCR 28 (The Appalachian Mountains). This region includes the Blue Ridge, the Ridge and Valley Region, the Cumberland Plateau, the Ohio Hills, and the Allegheny Plateau. Ecologically this is a transitional area, with forested ridges grading from primarily oak-hickory forests in the south to northern hardwood forests further north. Pine-oak woodlands and barrens and hemlock ravine forests are also important along ridges, whereas bottomland and riparian forests are important in the valleys, which are now largely cleared for agricultural and urban development. BCR 28 is further broken down into smaller physiographic regions by Partners in Flight (see page 1-9).

The primary purposes of BCRs, proposed by the mapping team in 1998 and approved in concept by the U.S. Committee in 1999, are to

- facilitate communication among the bird conservation initiatives;
- systematically and scientifically apportion the U.S. into conservation units;
- facilitate a regional approach to bird conservation;
- promote new, expanded, or restructured partnerships; and
- identify overlapping or conflicting conservation priorities.

As integrated bird conservation progresses in North America, BCRs should ultimately function as one of the primary units within which biological foundation issues are resolved, landscape configuration of sustainable habitats is designed, and priority projects are originated.

North American Waterfowl Management Plan (update 2004)

This updated plan among the United States, Canada, and Mexico outlines their strategy to sustain or restore waterfowl populations through habitat protection, restoration, and enhancement. The 2004 update to the North American Waterfowl Management Plan (NAWMP) outlines population goals for 14 species, species groups, or races of ducks and 34 populations within 7 species of geese (NAWMP 2004). As with the original 1986 plan, its implementation will be accomplished at the U.S. regional level in 11 habitat joint venture areas and three species joint ventures: arctic goose, black duck, and sea duck. Habitat joint ventures are the primary mechanisms for accomplishing plan objectives. Species joint ventures are intended to assist plan implementation by improving scientific information necessary to effectively manage waterfowl populations. Joint venture partnerships involving Federal, State and provincial governments, tribal nations, local businesses, conservation organizations, and individual citizens have been assembled to facilitate and coordinate protecting habitat within the joint venture areas. To implement the plan, these population goals have been translated into habitat protection goals. The 2004 update includes the habitat protection and restoration estimates (in acres) established by each habitat joint venture partnership.

Canaan Valley refuge lies within the boundaries of the newly formed Appalachian Mountains Joint Venture (AMJV). Until recently, the refuge was considered part of the Atlantic Coast Joint Venture (ACJV), and it was the ACJV that we relied upon for assistance during this planning process. However, in the future, we will look to the AMJV for guidance on and suggestions for bird management options.

Originally, the ACJV focused on protecting and managing priority wetland habitats for migration, wintering, and production of waterfowl, with special consideration to black ducks. Benefits to other wildlife in the joint venture area were also included, but were secondary to waterfowl. This goal has since been expanded. Now the ACJV *“is a partnership focused on the conservation of habitat for native birds in the Atlantic Flyway of the United States from Maine south to Puerto Rico.”* (ACJV 2004). This broadened perspective is consistent with other major national and continental bird conservation plans and the NABCI discussed previously in this chapter. The ACJV coordinates planning and delivery of bird habitat conservation in this area to improve efficiency and efficacy of recovery and restoration efforts using a sound biological foundation. The AMJV shares a similar methodology and mission: *“to restore and sustain viable populations of native birds and their habitats in the Appalachian Mountains Joint Venture through effective, collaborative partnerships”* (AMJV 2007).

You can access the various plans (including the NAWMP plan and updates) at http://www.nawmp.ca/eng/pub_e.html. We used them as a basis for evaluating waterfowl and other native bird management opportunities on the refuge.

Partners in Flight Bird Conservation Plan: Physiographic Area 12, Mid-Atlantic Ridge and Valley

In 1990, Partners in Flight (PIF) was conceived as a voluntary, international coalition of government agencies, conservation organizations, academic institutions, private industry, and other citizens dedicated to reversing the trends of declining bird populations and to “keeping common birds common.” The foundation of PIF’s long-term strategy for bird conservation is a series of scientifically based bird conservation plans, using physiographic provinces as planning units. The goal of each PIF plan is to ensure long-term maintenance of healthy populations of native birds, primarily nongame landbirds. Within each physiographic area, the plans rank bird species according to their conservation priority, describe desired habitat conditions, develop biological objectives, and recommend conservation actions. Habitat loss, population trends, and vulnerability of a species and its habitats to regional and local threats are all factors used in the priority ranking (Pashley et al. 2000).

Canaan Valley refuge lies in the Mid-Atlantic Ridge and Valley Physiographic Province, Bird Conservation Area (BCA) 12. The PIF Bird Conservation Plan for the Mid-Atlantic Ridge and Valley (PIF 2003) provides a broad description of the area and associated habitats, identifies priority bird species and habitats, and describes habitat protection objectives (in acres) deemed necessary to support the various bird species associated with each habitat. In addition, the plan outlines other conservation recommendations and needs for bird species within the area. In all, 50 priority breeding-species of birds have been identified for BCA 12. Protecting these species will require a balanced mix of grasslands, shrub-scrub, forested wetlands, non-forested wetlands, and forested uplands habitats.

The final Area 12 PIF plan is available at <http://www.partnersinflight.org>. We referred to this plan as we considered management opportunities on the refuge and to help compile a list of birds of conservation concern for appendix A, “Species of Conservation Concern.”

Region 5 Birds of Conservation Concern (2008)

The Birds of Conservation Concern (BCC) plan, updated every five years by our Division of Migratory Birds, identifies nongame migratory birds that, without conservation action, are likely to become candidates for listing under the ESA. The BCC compiles the highest ranking species of conservation concern from these major nongame bird conservation plans: PIF (species scoring >21), U.S. Shorebird Conservation Plan (species ranking 4 or 5), and North American Waterbird Conservation plan (species ranking 4 or 5). This report can be accessed online at <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>.

We used the BCC list in compiling appendix A and to help us focus on which species might warrant special management attention. We also used the final Area 12 PIF plan to help generate the list of birds of conservation concern in appendix A.

American Woodcock Conservation Plan (2008)

The American Woodcock Conservation Plan (Kelley & Williamson 2008) emerged from the efforts of the Service, State wildlife management agencies, and non-governmental organizations known as the *Woodcock Task Force*. Significant declines in woodcock populations since the 1970s are largely due

to the loss of early successional habitat, as well as changes in land use and forestry practices. The plan outlines recommendations for halting this decline in woodcock populations and for returning them to densities which provide adequate recreational opportunities. Overall, the plan's objective is to increase populations by increasing the amount of suitable habitat available.

We referenced this plan when writing goals and objectives for this CCP. The plan is available for download on the Service's Migratory Bird Division's website at http://www.timberdoodle.org/sites/default/files/woodcockPlan_0.pdf.

Regional Wetlands Concept Plan—Emergency Wetlands Resources Act (Emergency Wetlands Resources Act of 1986, 16 U.S.C. 3901(b))

In 1986, Congress enacted the Emergency Wetlands Resources Act to promote the conservation of our nation's wetlands. The Act directs the Department of the Interior to develop a National Wetlands Priority Conservation Plan identifying the location and types of wetlands that should receive priority attention for acquisition by Federal and State agencies using Land and Water Conservation Fund appropriations.

In 1990, our Northeast Region completed a Regional Wetlands Concept Plan to provide more specific information about wetlands resources in the Northeast. It identifies 850 wetland sites that warrant consideration for acquisition to conserve wetland values in our region (USFWS 1990b).

The Northeast Regional Wetlands Concept Plan identifies wetlands located within the refuge, Canaan Valley, as well as Dobbins Slashings, and Elder Run Bog which are both located in Tucker County. We used this plan to help identify areas in need of long-term protection in the watershed, and to prioritize wetlands habitat management on the refuge.

Eastern Brook Trout Conservation

There are multiple organizations concerned with the conservation of the eastern brook trout, and two in particular have written plans and strategies which apply to Canaan Valley.

The Eastern Brook Trout Joint Venture (EBTJV) is an organization composed of State and Federal agencies, regional and local governments, businesses, conservation organizations, academia, scientific societies, and private citizens. Their vision is "to ensure healthy, fishable brook trout populations throughout their historic eastern United States range."

Their conservation plan, written in November 2007, consists of four principal goals and five key priorities which serve as the framework for the development of State-level brook trout conservation action plans. These key priorities are to

- protect brook trout populations across the eastern United States;
- restore brook trout populations where original habitat conditions exist and where habitats can be restored;
- monitor and evaluate brook trout population responses to habitat protection, enhancement, and restoration projects;
- complete brook trout distribution and quantitative status assessments; and
- increase regional fishing opportunities for wild brook trout.

The EBTJV conservation plan is online at <http://www.easternbrooktrout.org/>.

The State of West Virginia also developed a group, called the West Virginia Brook Trout Conservation Group (Conservation Group) in 2006 to compile a State conservation strategy which would focus resources, build partnerships, and promote local action to restore brook trout habitat.

The Conservation Group is composed of individuals representing West Virginia University, U.S. Geologic Survey (USGS), West Virginia Division of Natural Resources (WVDNR), Trout Unlimited, the Freshwater Institute, U.S. Forest Service, and the U.S. Fish and Wildlife Service. They met from February to June 2006 to write the West Virginia Brook Trout Conservation Strategy (strategy).

The strategy outlines a conservation goal, as well as various conservation priorities to be addressed. They further broke down the priorities into strategies to be implemented. The goal of the Conservation Group is to “Implement statewide strategies that protect, restore, and enhance healthy brook trout populations in West Virginia.”

The listed priorities are:

- habitat and population protection;
- habitat and population restoration and enhancement;
- assessment, monitoring and research;
- outreach, partnerships, and capacity building; and
- enhanced socio-economic value to the State.

The strategy written by the Conservation Group can be found online at <http://www.easternbrooktrout.org/>.

Recovery Plan for the Cheat Mountain Salamander

On September 28, 1989, the Cheat Mountain salamander (*Plethodon nettingi*) was listed as threatened on the Federal list of endangered and threatened wildlife (USFWS 1991).

There are 80 disjunct populations of Cheat Mountain salamander throughout the known range. To date, surveys have been conducted at 499 sites within their range, with salamanders found in 80 disjunct populations. During surveys conducted in 1980 and 1989, two known historical populations were found to be extirpated, and during surveys in 1980, 1985, and 1989, fewer than ten specimens were uncovered in 51 of the 68 sites.

Since its listing as a threatened species, the U.S. Forest Service and U.S. Fish and Wildlife Service have required onsite surveys for the salamander on Federal lands and in areas being considered for development. According to the recovery plan, their recovery strategy began by obtaining an accurate overview of the species by determining its total range and searching for additional populations. More specific goals listed in the plan include:

- define total range of the species;
- survey additional areas within the known range to gain additional information about the species’ distribution and abundance;
- monitor known populations to determine their status, territoriality; home range, environmental changes, and competitive pressure;



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Cheat Mountain Salamander

- assess population characteristics;
- determine the effects of human-induced habitat alterations; and
- determine biological factors such as reproductive biology, growth rates, and genetic variability among populations.

Canaan Valley refuge surveys for Cheat Mountain salamanders annually, and they have been found on three separate locations on the refuge.

The Cheat Mountain salamander recovery plan is online at http://ecos.fws.gov/docs/recovery_plan/910725.pdf.

Recovery Plan for the Indiana Bat

In 1967, the Federal Government listed the Indiana bat (*Myotis sodalist*) as endangered because of declines in their numbers documented at their seven major hibernacula in the Midwest (USFWS 2007a).

Canaan Valley refuge falls in an area with known summer and winter records of the Indiana Bat. The refuge has conducted acoustical bat surveys since 2005. Additionally, surveys were performed in collaboration with the U.S. Forest Service Northern Forest Research Station in 2003. The data collected presented compelling evidence of this species foraging on refuge property, and importantly, outside of migration periods. Evaluation of potential Indiana bat use of the Canaan Valley will be a priority of the Canaan Valley refuge, and this species should be considered as a likely occurrence in the southern portion of the watershed, including the properties in Timberline Resort.

The recovery plan for the Indiana bat can be viewed online: http://ecos.fws.gov/docs/recovery_plan/070416.pdf.

Other Species of Concern

The West Virginia northern flying squirrel, which occurs in refuge forests, was de-listed as an endangered species in September 2008. The squirrel has been successfully trapped and monitored at one location on the refuge but is expected to range throughout the higher elevations of the Kelly-Elkins Tract. The Service developed a Red Spruce-Northern Hardwood Ecosystem Memorandum of Understanding (MOU) with multiple Federal, State and non-government organization (NGO) partners. The vision of the MOU specifically includes the need to "... provide functional habitat to sustain the viability of the West Virginia northern flying squirrel..." (USFWS 2007b). As an active partner in the MOU, the refuge will still consider the West Virginia northern flying squirrel a focal species.

The bald eagle, delisted in August 2007, uses the refuge during winter months and migration. Bald eagles are still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act and remain a species of management priority for the Service. Bald eagles use the refuge primarily from late fall to early spring. Generally bald eagles observed are juveniles; however, adults are seen each year. Up to six bald eagles have been observed together on the refuge at one time. Typically eagles are seen singly during winter months foraging over the wetland areas in the northern portion of the refuge. No known nesting occurs in the vicinity of Canaan Valley.

Both the West Virginia northern flying squirrel and the bald eagle, although delisted, remain priority species for Service protection and management.

West Virginia Wildlife Conservation Action Plan (West Virginia 2006)

State fish and wildlife agencies have been required to develop comprehensive wildlife conservation strategies focusing on "species of greatest conservation need" in order to be eligible for funds from the State wildlife grant program. That program provides Federal funds to states for conservation efforts aimed at preventing fish and wildlife populations from declining, reducing the potential for these species to be listed as endangered.

West Virginia's plan, called the West Virginia Wildlife Conservation Action Plan (WVCAP), was revised several times; the latest revision occurred in 2006. The WVCAP divides the State into three physiographic provinces. Canaan Valley refuge is located in the landscape region known as the Western Allegheny Plateau. The WVCAP further breaks down the map into various habitat types. Canaan Valley lies mainly in the Red Spruce Forest and Northern Hardwood Forests habitats.

In identifying the species in greatest need of conservation, the WVCAP compiles information from concern lists created by a variety of different organizations, including the Service, WVDNR, Natural Heritage Program, The World Conservation Union, Convention on International Trade in Endangered Species of Wild Flora and Fauna, West Virginia PIF, National Audubon Society, and others. The Cheat Mountain salamander, West Virginia northern flying squirrel, and the Indiana Bat are all identified as wildlife of greatest conservation need within the Canaan Valley refuge landscape.

Refuge Purposes and Land Acquisition History

Canaan Valley Refuge Establishing Legislation

Refuges can be established by Congress through special legislation, by the President through executive order, or administratively by the Secretary of the Interior (delegated to the Director of the Service), who is authorized by congress through legislation. Refuge System lands have been acquired under a variety of legislative and administrative authorities.

The Service first considered establishing a national wildlife refuge in Canaan Valley, Tucker County, West Virginia in 1961, when a biological survey of the valley's nationally significant wetlands and wildlife habitat was conducted. Additional field reconnaissance was undertaken in 1976, and realty and biological reconnaissance reports were prepared. In April 1977, the Director of the Service selected a proposal for consideration and directed commencement of an environmental impact review.

An Environmental Impact Statement (EIS) was prepared for the refuge proposal in accordance with the requirements of NEPA. The EIS described the proposed action and discussed its environmental impacts, unavoidable adverse effects, the relationship between short-term use and long-term productivity, and commitments of resources, as specified in Section 102 of NEPA. The EIS also considered four alternatives to the proposed action.

Copies of the Draft EIS were provided to the public, appropriate Federal, State, and local agencies for comment on March 24, 1978. Those comments were reviewed and considered in finalizing the EIS. The Service concluded this project planning/public review phase with the approval of the Final EIS on May 30, 1979.

With that action, the Service approved the establishment of the refuge, as authorized and directed by the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended. Section 7(a) of the Act (16 U.S.C. 742f) authorizes the Secretary of the Interior to take steps "required for the development, advancement, management, conservation, and protection of fish and wildlife resources including, but not limited to, research, development of existing facilities, and acquisition by purchase or exchange of land and water or interests therein." Section 7 (a)(1) of the Land and Water Conservation Fund Act of 1965, as amended, September 28, 1976, (16 U.S.C. 4601-9) provides authority to use Land and Water Conservation Fund (LWCF) money for acquisition of refuge areas under paragraph (5) of section 7(a) of the 1956 Act. This administrative action resulted in an approved land acquisition boundary, encompassing 28,000 acres, within which lands could be acquired for the refuge according to the policy described in the Proposed Action section of the EIS.

The actual establishment of the refuge was delayed due to the proposal to create a hydroelectric power project in the area that involved the major land ownerships within the acquisition boundary. The largest single landholding within the boundary consisted of a 15,000-acre tract owned by Allegheny Power Systems, Inc./Monongahela Power Company. This tract includes a major portion of the large unique wetland ecosystem and surrounding undeveloped lands located in the central and northern portion of Canaan Valley.

In April 1977, the Federal Power Commission (now Federal Energy Regulatory Commission, FERC) licensed Allegheny Power to construct the Davis Power Project, a pumped storage hydroelectric project. The proposed power project would have inundated approximately 4,400 acres of wetlands and about 2,900 acres of terrestrial habitat. On July 14, 1978, the power project permit, required under Section 404 of the Clean Water Act, was denied by the U.S. Army Corps of Engineers because of the project's extensive adverse impacts to wetlands. A period of litigation ensued, involving several appeals. The situation was not resolved until 1988, at which time the U.S. Supreme Court chose not to review a U.S. Court of Appeals decision that a Clean Water Act permit was required [cert. denied. 484 U.S. 816 (1987)]. On April 29, 1991, FERC granted Allegheny Power's request for a stay of the project license based, "... on the lack of viability of the project."

During this period, the Service did not proceed with acquisition of any lands or request funding for that purpose. Public outreach, via field tours, presentations, media contacts, etc., continued throughout the period. In 1991, the Service proposed boundary modifications in the southern end of the refuge in response to concerns expressed by local government officials and owners of developed properties in the valley. Areas which were originally included within the project boundary because of their biological importance were deleted because their habitat value had been compromised as a result of development. These lands were removed from the boundary since the Service had no interest in acquiring developed lands, thereby reducing the total approved acquisition boundary to 24,000 acres.

With the U.S. Supreme Court ruling and the granting of the license stay, the Service developed a final environmental assessment in 1994 to determine if any substantial changes had been made to the proposed action, or if circumstances or new information relevant to the environmental concerns were still within the scope of the EIS. Based on that review and the Service's determination that the project modification and intervening developments were of minor effect on the basic project, the Service determined that a supplemental environmental impact statement would not be necessary. The Service therefore proceeded with the next step in the refuge establishment process and submitted a request for funding. The proposed refuge received renewed support from the WVDNR, the U.S. Environmental Protection Agency (EPA), many other agencies and conservation organizations, and local governments and citizens.

Canaan Valley refuge was established when the Freeland Tract was purchased on September 11, 1994. Through various purchases between 1994 and 2001, the refuge slowly grew to just over 3,000 acres in size. In February 2002, the refuge acquired just under 12,000 acres from Allegheny Power Systems, including much of the wetlands in the central part of the valley. This purchase brought the acreage of the refuge to 15,245.

Canaan Valley Refuge Purposes

The refuge was established to ensure the ecological integrity of Canaan Valley and the continued availability of its wetland, botanical, and wildlife resources to the citizens of West Virginia and the United States. It has the largest wetland complex in both West Virginia and the central and southern Appalachians, encompassing over 8,400 acres. The wetland is listed as a priority for protection under the Emergency Wetlands Resources Act of 1986, as implemented by the Service's Regional Wetlands Concept Plan, and considered by the State of West Virginia as "the most important wetland in the State."

The Service established the refuge for the following additional purposes and under the following authorities:

“... for the development, advancement, management, conservation, and protection of fish and wildlife resources...” (Fish and Wildlife Act of 1956; 16 U.S.C. 742f(a) (4));

“... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions” (Emergency Wetlands Resources Act of 1986; 16 U.S.C. 3901(b));

“... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” 16 U.S.C. 715d (Migratory Bird Conservation Act of 1929).



Mary Konchar

Nature hike at Canaan Valley National Wildlife Refuge

Refuge Operational Plans ("Step-Down" Plans)

The U.S. Fish and Wildlife Service Manual, Part 602, Chapter 4 (Refuge Planning Policy) lists more than 25 step-down management plans that are generally required on refuges. Those plans "step down" general goals and objectives to specific strategies and implementation schedules. Some require annual revisions; others are revised on a 5- to 10-year schedule. Some require additional NEPA analysis, public involvement, and compatibility determinations before they can be implemented.

The following step-down plans have been completed and approved as follows:

- Hunt Management Plan (1997) revised 2007
- Fire Management Plan (2005)
- Fur Bearer Management Plan (2004)
- Continuity of Operations Plan (2007)
- Fire Prevention Plan (2007)
- Hurricane Action Plan (2007)
- Emergency Action Plan (2007)
- HPAI: Avian Influenza Plan (2006)
- Chronic Wasting Disease Plan (2006)

The following step-down plans need to be completed:

- Visitor Services Plan
- Habitat Management Plan
- Fishing Plan
- Inventory and Monitoring Plan

Refuge Vision Statement

Early in the planning process, our team developed the following vision statement to provide a guiding philosophy and sense of purpose for our planning.



Ken Sturm/USFWS

Deer mouse tracks in the snow

Canaan Valley National Wildlife Refuge showcases the largest contiguous, high elevation wetland complex in West Virginia and harbors a vast assemblage of rare plants and animals normally associated with more northern latitudes. The refuge conserves, protects, and manages a mosaic of wetland, forested, and early successional habitat that supports migratory birds and threatened and endangered species. As a steward of a significant portion of the headwaters, the Refuge ensures the integrity of the natural resources of the upper Blackwater River watershed. Refuge habitats and wildlife are conserved and managed through research and collaboration with Federal, State, and local conservation partners.

As an integral part of the surrounding community, the Refuge provides high quality, safe, wholesome, and diverse opportunities for education and recreation, especially hunting and wildlife observation. The refuge experience fosters public interest in the beauty and unique character of Canaan Valley, an appreciation of fish and wildlife ecology, plant ecology, and stewardship of the natural world. Visitors develop a greater understanding and appreciation for the mission of the National Wildlife Refuge System and refuge management programs, and for the importance of protecting lands for wildlife conservation.



Ken Sturm/USFWS

Canada geese

Refuge Goals

Our planning team developed the following goals for the refuge after a review of legal and policy guidelines, the Service mission, regional plans, refuge purposes, our vision for the refuge, and public comments. All of these goals fully conform with and support national and regional mandates and policies.

- 1) Maintain and perpetuate the ecological integrity of the Canaan Valley wetland complex to ensure a healthy and diverse wetland ecosystem providing a full range of natural processes, community types, and native floral and faunal diversity.
- 2) Perpetuate the ecological integrity of upland northern hardwood and northern hardwood-conifer forests to sustain native wildlife and plant communities including species of conservation concern, to develop late-successional forest characteristics, and to perpetuate the biological diversity and integrity of upland forest ecosystems.
- 3) Provide and promote through active management a diversity of successional habitats in upland and wetland-edge shrublands, grasslands, old fields, and hardwood communities to sustain early successional and shrubland specialists such as golden-winged warbler, American woodcock, brown thrasher, eastern towhee, field sparrow, and other species of concern.
- 4) Enable visitors of all abilities to enjoy opportunities for wildlife-dependent recreation and education to enhance public appreciation, understanding, and enjoyment of refuge habitats, wildlife, and cultural history.
- 5) Collaborate with partners to promote the natural resources of Canaan Valley and the mission of the National Wildlife Refuge System.